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| 10/600,455 | 06/23/2003 | Shinya Sasamoto | NISCA USP267 | 7230 |
| 7590 | 09/13/2005 | | EXAMINER DEUBLE, MARK A | |
| James C. Wray Suite 300 1493 Chain Bridge Road McLean, VA 22101 | | | ART UNIT | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,455

Applicant(s)

SASAMOTO ET AL.

Examiner

Mark A. Deuble

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 15-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/839,662.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 15-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15, lines 10-14, recites a “shifting means for shifting the sheets stacked on the processing tray to change a stacking position of a direction that intersects a sheet discharge of the sheets stacked on the stacking tray via the first path and the sheets stacked on the stacking tray via the second path.” This language renders the scope of the claims impossible to ascertain because it is not understood by the examiner what it means to intersect a sheet discharge or how a position is changed of a direction.

Claim 15, lines 18-21, recites a “control means for alternately stacking sheets in the stacking tray from the first path and from the second bath by activating the shifting means when the sheet sorting is specified for a predetermined number of sheets on the stacking tray.” However, it appears from the specification that the sheet sorting means is activated after a predetermined number of sheets have been stacked on the processing tray and not when sheet sorting is specified for a predetermine number of sheets on the stacking tray. This discrepancy makes the scope of the claim impossible to ascertain.

Claim 15, line 22, begins with the phrase “for discharging,” however it is unclear what structure or means carries out the discharging function specified by the phrase.

Claim 15, line 24-27, state that “the stacking of subsequent sheets is possible at the same stacking position on the stacking tray as the sheets just discharged from the processing tray until a predetermined number of sheets is reached.” However, it is unclear what is meant by reaching a predetermined number of sheets. Does this refer to a predetermined number of sheets on the stacking tray or the processing tray, to a predetermined number of sheets processed through the sorting apparatus, or a predetermined number of sheets fed from the sheet cassettes? Furthermore, it appears from the specification that stacking of subsequent sheets is possible at the same stacking position of the stacking tray as the sheets discharged from the processing tray is possible even after a predetermined number of sheets is reached and not just until a predetermined number of sheets is reached. These discrepancies render the scope of the claim impossible to ascertain.

Claim 19, lines 4-5, include the phrase “to sort from these sheets are overlapped for discharge to the stacking tray.” It is unclear what the sheets are sorted from and this renders the scope of the claim impossible to ascertain.

Claim 20 recites “the shift position” in lines 20-21. There is insufficient antecedent basis for this limitation in the claim.

Claim 20, lines 23-25, state that subsequent stacked sheets are discharged “when the sheets have reached a predetermined number from the processing tray to the stacking tray.” This phrase renders the scope of the claims impossible to ascertain because it may be interpreted as meaning either that the sheets are discharged from the processing tray to the stacking tray when the sheets have reached a predetermined number or that when a predetermined number from the stacking tray to the processing tray is reached, sheets are discharged. Furthermore, as was stated

above with respect to claim 15, it is unclear what is meant by reaching a predetermined number of sheets.

Claim 21, lines 4-5, include the phrase “to sort from these sheets are overlapped for discharge to the stacking tray.” It is unclear what the sheets are sorted from and this renders the scope of the claim impossible to ascertain.

Claim 22, lines 5-7, recites a “shifting means for changing a stacking position by shifting the sheets stacked on the processing tray to sort for each sheet bundle stacked on the stacking tray. This language renders the scope of the claim impossible to ascertain because what stacking position is being referred to (i.e. is it the stacking position of sheets on the processing tray or on the stacking tray) and it is unclear what the phrase “to sort for each sheet bundle stacked on the stacking tray means.

Claim 22, lines 12-13, recite “discharging sheets that had been shifted thus far from the processing tray to the stacking tray.” This phrase is ambiguous because it can be interpreted to mean that sheets that have been shifted from the processing tray to the stacking tray are discharged or that the sheets that have been shifted (on the processing tray presumably) have been discharged from the processing tray to the stacking tray. Furthermore, lines 13-15 of the claim recite “discharging the sheets shifted thus far from the processing tray to the stacking tray.” This phrase is ambiguous for the same reason as the phrase of lines 12-13. Additionally, it appears to be redundant, meaning basically the same thing as the phrase of lines 12-13 and therefore failing to add a limitation to the claim.

3. Claims 15-24 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See

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MPEP § 2172.01. Specifically, while the claims are directed to a sheet sorting apparatus, the claimed control means does not provide for stacking of sheets on the stacking tray in different positions to sort sheets, it only activates the shifting means so that the stacking of subsequent sheets is possible at the same stacking position on the stacking tray. Therefore, the claims are incomplete because they fail to provide a sheet sorting means as required by the preamble of the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Rizzolo et al. (U.S. Patent No. 5,2898,062).

Rizzolo et al. shows a sheet processing apparatus which can sort sheets discharged from the image-processing unit. The sheet processing unit comprises a stacking tray 92 which stacks sheets with indicia formed thereon and a processing tray 95 for receiving sheets in a process leading to the stacking tray. The processing tray supports sheets so that they bridge the processing tray and the sacking tray (see Fig. 4B) and it includes a pressing means for pressing the sheets stacked on the stacking tray in the form of a stapler 110 or roller 99. The apparatus includes a control means 160 that operates a shifting means 96 that changes the accumulated stacked position of sheets on the processing tray. Sensor 161 is connected to a control means so that it may provide a capacity recognition means that senses the volume of sheets by measuring

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the height level of the sheets stacked on the processing tray thereby recognizing when the stacking limit of the processing tray is exceeded. In operation, the shifting means makes the position of the leading discharged sheets on the processing tray and the position of subsequent sheets on the processing tray the same before discharging sheets stacked on the processing tray to the stacked tray when it is recognized that the tacking limit capacity of the processing tray has been surpassed by the sheets stacked on the processing tray. Thus Rizzolo et al. shows all the structure required by claims 22-24.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-18, 20, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (U.S. patent no. 5,137,265).

Sato et al. shows a sheet processing apparatus 27 which can sort or staple sheets discharged from the image-processing unit. The sheet processing unit comprises a stacking tray 103 which stacks sheets with indicia formed thereon and a processing tray 77 for receiving sheets in a process leading to the stacking tray. The processing tray supports sheets so that they bridge the processing tray and the stacking tray and it includes a pressing means for pressing the sheets stacked on the stacking tray in the form of a stapler 85 or roller 89. The apparatus includes a control means 62 that allows the apparatus to be alternately operated in a non-stapling mode and a stapling mode so that sheets are alternately fed sheets along a first path for

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discharging sheets directly to the stacking tray (see col. 11, ln. 46-52) and along a second path for discharging sheets to the stacking tray via the processing tray. The control means operates a shifting means 80 that changes the accumulated stacked position of sheets on the processing tray so that the shifting means makes the position of the leading discharged sheets on the processing tray and the position of subsequent sheets on the processing tray the same before discharging sheets stacked on the processing tray to the stacked tray. Sensor S5 is connected to a control means so that it may provide a capacity recognition means that can recognize when a stacking limit of the processing tray is exceeded. When this is recognized, the stack of sheets on the processing tray is discharged to the stacking tray. Thus Sato et al. shows all generally all the structure required by the claims. However, the sensor recognizes when the stacking limit is exceeded by counting a number of sheets fed to the processing tray rather than by detecting a volume of sheets temporarily stacked on the processing or by using a level sensor to measure a height level of sheets stacked on the processing tray as required by the claims. It should be noted, though, that one of ordinary skill in the art would know that the way in which the capacity recognition means recognizes that the stacking limit has been exceeded has no effect on the operation of the claimed sheet sorting apparatus and therefore the capacity recognition means of Sato et al. is deemed to functionally equivalent with the capacity recognition means of the claims absent some disclosure in the applicant's specification of some unusual advantage or result. *In re Kuhle*, 188 USPQ 7 (CCPA 1975).

In regard to the limitations of claims 20 and 22 that the control means temporarily stops the shifting action of the shifting means, discharges shifted sheets from the processing tray to the stacking tray, then restarts the action of the shifting means, it should be noted that a temporary

stopping of the shifting means during discharge of the sheets from the processing tray to the stacking tray would be an inherent part of the operation of the apparatus of Sato et al. because the rollers 86, 89 that discharge the stacks of sheets from the processing tray to the stacking tray can not operate simultaneously with the shifting means.

Response to Arguments

1. Applicant's arguments filed February 4, 2005 have been fully considered but they are not persuasive.

Applicant's representative argues that Sato fails to disclose temporarily discharging sheets to a stacking tray when the storage capacity of the processing tray is exceeded and then shifting to stack subsequent sheets in the same position on the processing tray when sorting sheets. Specifically, the applicant's representative argues that because the stacking tray 103 is shifted so that sheets are placed in different positions thereon, the apparatus does not shift sheets on the processing tray to sort them as is taught in the present invention.

While this characterization of Sato is generally accurate, Sato still meets all the limitations of the claims because the claims do not require that the shifting of sheets on the processing tray is the act of sorting the sheets. The shifting means of Sato shifts the sheets on the processing tray to align the sheets after a predetermined stacking capacity has been reached as a step in the sorting process of the sheets. In this operation, the position of the first set of sheets on the processing tray and the position of all subsequent sets of sheets stacked on the processing tray are made the same on the processing tray before the sheets are discharged to the stacking tray when sorting sheets. Thus it may be said to meet the limitations of the claims.

Applicant's representative argues on page 6 that Sato does not mention having control means for canceling the shifting operation by detection of the volume of sheets stacked on the processing tray, discharging a sheet set to the stacking ray and then shifting after that discharge to continue until a predetermined number of sheets of that set has been reached at the same position of the processing tray. It should be noted, however, that this limitation is not recited anywhere in the claims and therefore it not part of the present invention. Furthermore, even if the claims did require such a control means, the CPU controls the shifting means of Sato to continue shifting sets of sheets on the processing tray for alignment after a first set of sheets has been discharged.

Applicant's representative also argues that Rizzolo fails to disclose temporarily discharging sheets on the processing tray to the stacking when using the processing tray for sorting and the storage capacity of the processing tray is exceeded, then shifting to the same position of the processing tray for subsequent sheets of the same set. According to the representative, this is because the sensor does not detect the limit of storage of sheets on the processing tray and therefor nothing disclosed in Rizzolo relates to sorting of sheets. While the apparatus of Rizzolo et al. does not sort sheets in the fashion of the present invention, it may still be said to sort sheets in some fashion. This is especially true in light of the fact that the sorting operation of the present invention results with sheets stacked in the same position rather than in different positions as is typical in sheet sorting. Furthermore, it should be noted that there is no language in the claims requiring the processing tray be used for sorting, only that the entire apparatus sort she sheets in some fashion. Thus Rizzolo meets all the limitations of the claims.

Allowable Subject Matter


2. Claims 19 and 21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Deuble whose telephone number is (571) 272-6912. The examiner can normally be reached on Monday through Friday except for alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene O. Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

md


GENE O. CRAWFORD
PRIMARY EXAMINER